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Application No.: 10/672686

Docket No.: MWS-032

NOV 27 2006

**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A method for preparing a simulation of a system, comprising:  
obtaining instructions representative of compiling a topology of said system and at least one relationship among a plurality of parameters of said system;~~and~~  
maintaining at least one of said plurality of parameters in a data structure as a parameter set;  
modifying said at least one of the plurality of parameters to create a modified parameter set; and  
executing said instructions by reading a said data structure containing said plurality of parameters modified parameter set to create an intermediate representation representative of said system and said plurality of parameters modified parameter set, the executing occurring absent recompiling said topology.
2. (Canceled)
3. (Currently Amended) The method of claim 21, wherein before said executing step, a topology corresponding to the modified parameter set is determined to match the topology corresponding to said step of obtaining instructions representative of compiling a topology.
4. (Currently Amended) The method of claim 3, wherein a checksum is used to determine whether said topology corresponding to the modified parameter set matches the topology corresponding to said step of obtaining instructions representative of compiling a topology.
5. (Currently Amended) The method of claim 21, wherein said modifying step ~~can be~~ is performed by a user by directly editing said data structure.
6. (Canceled)
7. (Currently Amended) The method of claim 1, further comprising, ~~after said obtaining step and before said executing step,~~ the step of creating code representative of said instructions.

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8. (Original) The method of claim 7, wherein said code is in C language.
9. (Original) The method of claim 7, wherein said executing step comprises executing said code.
10. (Original) The method of claim 1, wherein said intermediate representation created in said executing step is in state-space form.
11. (Original) The method of claim 1, wherein said system is a multi-body physical system.
12. (Original) The method of claim 1, wherein said instructions are a sequence of steps.
13. (Currently Amended) A method for simulating a system, comprising:  
~~reading-obtaining~~ a data structure, editable by a user, ~~that comprises and having~~  
parameters corresponding to said system;  
~~converting at least a portion of said system into an intermediate representation for~~  
~~simulating said portion, wherein the intermediate representation comprises information~~  
~~corresponding to a topology of said system, the intermediate representation further comprising at~~  
~~least one relationship among parameters of said system;~~  
~~creating an updated data structure by modifying at least one parameter in said data~~  
~~structure that corresponds to said portion of said system;~~  
~~generating an updated intermediate representation based on said updating an intermediate~~  
~~representation, the updated intermediate representation corresponding to said topology and said~~  
~~updated data structure containing information regarding a topology of said system and at least~~  
~~one relationship among said parameters; and~~  
~~executing a simulation of~~ executing said updated intermediate representation to simulate  
said system represented by the intermediate representation, the executing occurring absent  
recompiling said intermediate representation.
14. (Canceled)
15. (Canceled)

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16. (Currently Amended) The method of claim ~~15~~13, wherein said modifying step is performed by said user.

17. (Original) The method of claim 13, wherein before said executing step, a topology corresponding to said updated data structure is determined to match the topology corresponding to said data structure.

18. (Original) The method of claim 17, wherein said topology corresponding to said updated data structure is determined to match said topology corresponding to said data structure by the use of a checksum.

19. (Original) The method of claim 13, wherein said intermediate representation is in state-space form.

20. (Original) The method of claim 13, wherein said data structure is in quadruple form.

21. (Original) The method of claim 13, wherein said system is a multi-body physical system.

22. (Canceled)

23. (Canceled)

24. (Currently Amended) A medium ~~holding comprising~~ electronic device executable steps for a method, said method comprising the steps of:

obtaining instructions representative of compiling a topology of said system and at least one relationship among a plurality of parameters of said system; ~~and~~

maintaining at least one of said plurality of parameters in a data structure as a parameter set;

modifying said at least one of the plurality of parameters in said data structure to create a modified parameter set; and

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~~executing said instructions reading a said~~ data structure containing said ~~plurality of parameters modified parameter set~~ to create an intermediate representation representative of said system and ~~said plurality of parameters modified parameter set, the reading allowing executing said instructions absent recompiling said topology.~~

25. (Canceled)

26. (Currently Amended) The ~~method-medium~~ of claim 24, wherein said system is a multi-body physical system.

27. (New) The medium of claim 24, wherein before said executing step, a topology corresponding to the modified parameter set is determined to match the topology corresponding to said step of obtaining instructions representative of compiling a topology.

28. (New) The medium of claim 27, wherein a checksum is used to determine said topology corresponding to the modified parameter set matches said topology corresponding to said step of obtaining instructions representative of compiling a topology.

29. (New) A computing system comprising:

a data structure containing modifiable parameters corresponding to a model of a system;  
an updatable intermediate representation corresponding to a topology of said model and  
at least one relationship among said modifiable parameters, the updatable intermediate representation updating when at least one modifiable parameter is modified in said data structure; and

a simulator for simulating said model by executing said updatable intermediate representation without recompiling said updatable intermediate representation after a modifiable parameter is modified.

30. (New) The system of claim 29, wherein said simulator determines that a topology corresponding to the modified parameter set matches said topology corresponding to said updatable intermediate representation.

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31. (New) The system of claim 30, wherein said simulator initiates a checksum to determine whether said topology corresponding to the modified parameter set matches said topology corresponding to said intermediate representation.
32. (New) The system of claim 29, wherein said intermediate representation is in a state-space form.
33. (New) The system of claim 29, wherein said model of a system is a model of a multi-body physical system.